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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/689,429

10/20/2003

David Langridge

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EXAMINER

LE, THI Q

ART UNIT

PAPER NUMBER

2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/689,429	LANGRIDGE, DAVID	
	Examiner	Art Unit	
	Thi Q. Le	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. **Claims 1-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant's admitted prior art** and in view of **Johnson et al. (US PGPub 2004/0120706)**.

Consider **claim 1**, applicant's admitted prior art clearly shows and discloses, an optical communications network, comprising: a source node (source node 10; figure 1) and a sink node (sink node 12; figure 1); a sub-network (read as, second network 16; figure 1) between the source node and the sink node; a tandem connection monitoring arrangement (read as, TCM source 20 and 22; figure 1) provided at first and second edges of the sub-network for monitoring errors introduced by the sub-network, wherein the tandem connection monitoring arrangement at the first edge provides error information with the optical data passing through the sub-network, wherein the error information includes an error count or a first alarm indication indicative of an

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incoming fault (figure 1; paragraphs 0010, 0012). Applicant's admitted prior art fails to disclose, a sub-network comprising a plurality of sub-network nodes; and wherein at least one of the sub-network nodes is provided with a sub-network monitoring arrangement, wherein when the sub-network monitoring arrangement identifies a fault, a second alarm indication indicative of a fault is provided as the error information, and wherein the tandem connection monitoring arrangement at the second edge, upon receipt of the second alarm indication, replaces the second alarm indication with a fault indication.

In related art, Johnson et al. disclose, a sub-network comprising a plurality of sub-network nodes (read as, nodes 150 and 150'; figure 6); and wherein at least one of the sub-network nodes is provided with a sub-network monitoring arrangement (read as, fault monitor 30; figure 6), wherein when the sub-network monitoring arrangement identifies a fault, a second alarm indication indicative of a fault is provided as the error information (read as, generating an AIS signal in the signal overhead, when a fault is detected; paragraph 0034), and wherein the tandem connection monitoring arrangement at the second edge, upon receipt of the second alarm indication, replaces the second alarm indication with a fault indication (read as, the egress node comprises means for detecting a signal degradation alarm and loss of signal alarm, and take appropriate action; paragraph 0019) (figure 6; paragraph 0019, 0034, 0084-0086).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Johnson et al. with applicant's admitted prior art. To avoid superfluous alarm reports at connection termination points.

Consider **claim 2**, and as **applied to 1 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein when a sub-network monitoring arrangement provides

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a second alarm indication, an alarm message is provided to a network control centre (read as, with AIS is detected by a node, a path alarm signal is sent to the network management center) (Applicant's admitted prior art; figure 1, paragraph 0021).

Consider **claim 3**, and **as applied to 2 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein when a sub-network monitoring arrangement receives data already having a second alarm indication, no alarm message is provided to the network control centre (read as, to avoid superfluous alarm reports at connection termination points, the network element detecting the loss of signal alarm (LOS) indication will assert an AIS signal in the line overhead. Thus, downstream nodes will not generate more LOS alarm indication.) (Johnson et al.; figure 6, paragraph 0034, 0084-0086).

Consider **claim 4**, and **as applied to 1 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein the error information comprises bit interleaved parity violation information or an incoming alarm indication signal (read as, errors are record in the N1 byte) (Applicant's admitted prior art; figure 1, paragraphs 0014-0015).

Consider **claim 5**, and **as applied to 1 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, a network comprising a SONET or SDH network (Applicant's admitted prior art; figure 1, paragraph 0006).

Consider **claim 6**, and **as applied to 5 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein the tandem connection monitoring arrangement inserts error information into the N1 or N2 byte (Applicant's admitted prior art; figure 1, paragraphs 0010-0015).

Consider **claim 7**, and as applied to 6 above, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein the tandem connection monitoring arrangement inserts error information into the IEC bits of the N1 byte (Applicant's admitted prior art; figure 1, paragraphs 0010-0015).

Consider **claim 8**, applicant's admitted prior art clearly shows and discloses, a method of monitoring errors in an optical communications network, comprising a source node and a sink node, and having a sub-network provided in a path between the source node and the sink node, the method comprising (figure 1; paragraphs 0010-0012): providing error information with optical data to be passed through the sub-network at a tandem connection monitoring arrangement at a first edge of the sub-network, the error information including an error count or a first alarm indication indicative of a fault (read as, generating an AIS code in the overhead indicating that network fault is external from the sub-network at the ingress node; paragraph 0019). Applicant's admitted prior art fails to disclose, a sub-network comprising a plurality of sub-network nodes; and at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information; and at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm indication with a fault indication.

In related art, Johnson et al. disclose, a sub-network comprising a plurality of sub-network nodes (read as, nodes 150 and 150'; figure 6); and at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information (read as, generating an AIS signal in the signal

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overhead, when a fault is detected; paragraph 0034); and at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm indication with a fault indication (read as, the egress node comprises means for detecting a signal degradation alarm and loss of signal alarm, and take appropriate action; paragraph 0019) (figure 6; paragraph 0019, 0034, 0084-0086).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Johnson et al. with applicant's admitted prior art. To avoid superfluous alarm reports at connection termination points.

Consider **claim 9**, and **as applied to 8 above**, is rejected for the same reason as claim 2 above.

Consider **claim 10**, and **as applied to 9 above**, is rejected for the same reason as claim 3 above.

Consider **claim 11**, and **as applied to 8 above**, is rejected for the same reason as claim 4 above.

Consider **claim 12**, and **as applied to 8 above**, is rejected for the same reason as claim 5 above.

Consider **claim 13**, and **as applied to 12 above**, is rejected for the same reason as claim 6 above.

Consider **claim 14**, and **as applied to 13 above**, is rejected for the same reason as claim 7 above.

Consider **claim 15**, applicant's admitted prior art clearly shows and discloses, a optical packet structure for use in an optical network in which a tandem connection monitoring

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arrangement provided at first and second edges of a sub-network for monitoring errors introduced by the sub-network (figure 1; paragraphs 0010-0012), the packet structure comprising an optical header and an optical data payload, wherein the header comprises a tandem connection monitoring byte which includes a plurality of incoming error counter bits, wherein the incoming error counter bits can be set to (figure 2; paragraphs 0016-0018): a first series of values which represent different numbers of errors (read as, 4 IEC bits of the N1 byte are use to indicated error count; paragraph 0017)) ; a second value representing a first alarm signal indicating a fault external to the sub-network (read as, digital value "1110" of the 4 IEC bits represent fault external to the sub-network; paragraph 0019). Applicant's admitted prior art fails to disclose, a third value representing a second alarm signal indicating a fault internal to the sub-network.

In related art, Johnson et al. disclose, a third value representing a second alarm signal indicating a fault internal to the sub-network (read as, the node generating LOS alarm indication signal, when a fault is detected; paragraph 0034) (figure 6; paragraphs 0034, 0084-0086).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Johnson et al. with applicant's admitted prior art. To avoid superfluous alarm reports at connection termination points.

Consider **claim 16**, and **as applied to 15 above**, applicant's admitted prior art as modified by Johnson et al. further disclose, wherein the tandem connection monitoring byte comprises the SONET or SDH N1 or N2 byte (Applicant's admitted prior art; figure 1, paragraphs 0010-0015).

Consider **claim 17**, applicant's admitted prior art clearly shows and discloses, instructions for controlling nodes of an optical communications network comprising a source

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node and a sink node, and having a sub-network provided in a path between the source node and the sink node, the instructions implementing a method comprising (figure 1; paragraphs 0010-0012): providing error information with optical data to be passed through the sub-network at a tandem connection monitoring arrangement at a first edge of the sub-network, the error information including an error count or a first alarm indication indicative of a fault (read as, generating an AIS code in the overhead indicating that network fault is external from the sub-network at the ingress node; paragraph 0019). Applicant's admitted prior art fails to disclose, a computer readable medium carrying instruction; a sub-network comprising a plurality of sub-network nodes; and at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information; and at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm indication with a fault indication.

In related art, Johnson et al. disclose, a sub-network comprising a plurality of sub-network nodes (read as, nodes 150 and 150'; figure 6); and at a sub-network node, monitoring receipt of the optical data, and when a fault is identified, providing a second alarm indication indicative of the fault as the error information (read as, generating an AIS signal in the signal overhead, when a fault is detected; paragraph 0034); and at a tandem connection monitoring arrangement at a second edge of the sub-network, upon receipt of the second alarm indication, replacing the second alarm indication with a fault indication (read as, the egress node comprises means for detecting a signal degradation alarm and loss of signal alarm, and take appropriate action; paragraph 0019) (figure 6; paragraph 0019, 0034, 0084-0086).

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It would have been obvious for a person of ordinary skill in the art at the time of the invention to incorporate the teachings of Johnson et al. with applicant's admitted prior art. To avoid superfluous alarm reports at connection termination points.

It would have been obvious for a person of ordinary skill in the art at the time of the invention to execute the method as described above using firmware. It is well known, that firmware are stored in a memory, which will be used by microcontrollers to execute the method above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Read et al.; 6,061,328

b) Kinoshita et al.; 7,075,712

c) Bhate et al.; 7,113,699

5. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Thi Le whose telephone number is (571) 270-1104. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Thi Le


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER